

Dust Devil Digest



Inside this issue:

2011 Fire Weather Recap	2
Fire Weather Outlook and Safety	2
2011 SkyWarn Spotter Talk Summary	3
WFO Midland Decision Support	6
What the Heat Index Means to You	6
NWS Midland Joins Facebook!	7
2011 Summer Weather Outlook	8
An Update on the Drought	9
In Midland Weather History...	9
Find it on Our Website!	10
Summer Weather Product Info	11
Weather Mad Lib, Trivia, Terms	11- 13

Volume 1, Issue 1

Spring/Summer 2011

CEED Fire Threatens Midland

By Greg Murdoch & Kat Hawley

NWS Midland/Odessa

On May 24, 2011, the weather conditions favored the rapid spread and control problems of fires. The over six mile long 5,000 acre fire named the "CEED Fire" started around 230 PM CDT from a blown out tire west of Farm to Market (FM) road 1788 and south of State Highway 191. At 200 PM CDT weather conditions at Midland International Airport were 94° with a relative humidity (RH) of 7 percent, and 20 ft. winds from the southwest (240°) at 24 miles per hour (mph), gusting to 44 mph. With the combination of the

weather conditions on May 24 and 10-hour fuel moistures of 4 percent, the fire had no resistance to spread.

A sign of extreme fire behavior during the CEED Fire was the observance of firewhirls. Firewhirls are columns of rotating and ascending air that have a similar appearance to dust devils but are filled with fire and embers. Firewhirls result in localized strong winds that have erratic wind directions and carry fire embers outside the fire perimeter, thus increasing the fire size and rate of spread. The Midland Fire Department (MFD) noted



A firewhirl on the perimeter of the CEED Fire as the fire moves east toward Midland. Photograph courtesy of MFD.

these firewhirls on the CEED Fire and associated them with rapid increases in fire spread.

(Continued on page 4)

Welcome to the Dust Devil Digest!

The staff of the National Weather Service in Midland, TX is proud to present the first edition of our newsletter, the *Dust Devil Digest*. This quarterly newsletter will cover the major weather headlines of west Texas and southeast

New Mexico. Each edition will also include information about past, present, and future weather events, weather safety tips, services we provide, and much, much more! We hope you find our newsletter to be a useful source of

information, and gain insight into some of our operations at the National Weather Service here in Midland which help us serve our main goal; the protection of life and property.



An American flag with smoke from the Alpine/Ft. Davis fire from April, 2011 in the background

“...it has been an unusual year this year, so we still may see fires throughout the next few months.”



Near-zero visibilities from the Alpine/Ft. Davis fire

2011 Fire Weather Recap

This has easily been one of the warmest years on record thus far for west Texas, with record high temperatures being broken on several days. The well-above normal high temperatures, combined with historic drought conditions, have made this one of the most active fire seasons to date. Greg Murdoch, a Lead Fore-

caster and Type I IMET, says that as of May 24 there's been 1.9 million acres that have burned across the state of Texas, and of that over 900,000 have burned in our CWA. There was an indirect fatality when smoke crossed road and caused interstate wreck on I-20 where a young child lost her life. There have also been inju-

ries to multiple firefighters.

Along with the sheer number of fires, the timing of the fires has also posed a challenge to firefighters: “The thing about this year that makes it impressive is that the actual window of when all these fires have occurred has been a much shorter window. There-

(Continued on page 3)

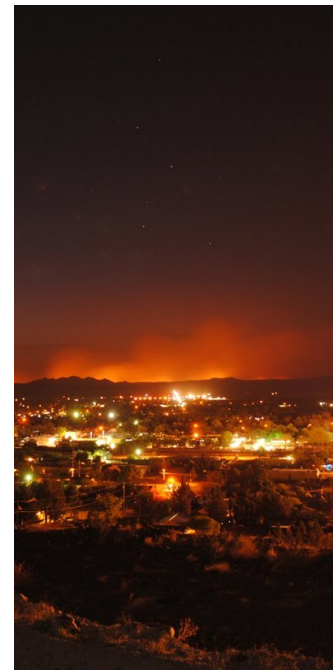
Fire Weather Outlook and What You Can Do to Be Prepared

It has been one of the biggest fire weather seasons to date, with over 900,000 acres burning in west Texas/southeast New Mexico. Although we're not completely out of the woods yet, the good news is that the worst of the fire weather is likely over. Greg Murdoch, Lead Forecaster and Type I IMET at the Midland WFO, says “we reached our peak towards the end of April... During the summer months, fires tend to be driven more by the fuel than by the weather, since we tend to lose the potential for high wind days, but it has been an unusual year this year, so we still may see fires throughout the next few months.”

With the threat of fires

lingering on for the next couple of months, being prepared, Murdoch says, is the best thing you can do to protect yourself and your family: “Being prepared in advance is the key; whether it's seeing that red flag warning in effect, seeing smoke on the horizon, or getting news reports of a fire nearby. If there's a fire nearby your home, be prepared to evacuate; these fires can move the length of a football field in a few minutes time, these fires can be several miles wide, and some of them can produce a lot of smoke, which can add to the last-minute chaos.” To keep up with fire weather forecasts for where you live, the NWS in Midland has a [link](#) on our webpage,

which will give you an idea of what conditions are going to be like for that day.



Nighttime image of the Rockhouse fire outside of Ft. Davis. Picture courtesy of the McDonald Observatory

2011 Midland WFO Spotter Talks a Success

Though the weather has been quiet, the Midland WFO was kept busy with the 2011 SkyWarn spotter talks. Pat Vesper, the Warning Coordination Meteorologist at the Midland WFO, said that the office presented 25 talks across the CWA to a total audience of over 500 people during March and April. Overall, Vesper was pleased with this year's turnout, and the presentations in Snyder and Kermit stuck out in his mind:

"The Snyder Fire Dept. had been busy fighting fires until 3 am the previous day, and the next day they had 45 people in attendance at the talk; a testament to how organized Perry Westmoreland (the Emergency Manager and Fire Chief in Snyder) is and how dedicated his workers are." Vesper also made note of the Kermit event, where they had 55 attendees, which he attributed to Judge Bonnie Leck and her assistant,

Vida Simpson, being such great supporters of the NWS over the years.

Already looking forward to next year's spotter talks, Vesper says they'll have a different look: "Every year we try to change up the talks a little, because even though the content is similar, the people that watch these talks want fresh material and new things in there, so we'll repackage everything to give it a different, fresh look."



2011 Fire Weather Recap

(Continued from page 2)

fore you have increased activity, over a shorter window of time, which really compounds the situation and makes it much more difficult for fire resources to manage it."

The most notable fire in terms of size was the Rockhouse fire in Presidio/Jeff Davis Counties, where 41 homes, 2 businesses, 100-200 power poles, 150 cattle, 15 calves, and 8 horses were destroyed. The fire itself burned around 315,000 acres (~238,000 football fields).

A Heavy Heli-Tanker was dispatched to the Bates

Field fire in Ector County, Murdoch believes that had the tanker not of been dispatched, there's a good chance the fire may not have been caught for some time, which would've allowed the fire to spread and possibly damage up to 300 homes, a power plant, and a water treatment plant.



DC-10 Airtanker at the Midland Int'l Airport

At the peak of the season at the end of April, the largest airtanker in the United States, a DC-10, was brought to Midland. DC-10s can drop ~12,000 gallons of retardant at a time, and according to Murdoch, it's the first time that a DC-10 has ever been in Texas.



Photo taken inside of the DC-10 Airtanker

"The fire itself burned around 315,000 acres (~238,000 football fields)."



Smoke from the Rockhouse Fire



“...The spot fires that I did see quickly grew to large fires in a matter of seconds.”

CEED Fire Threatens Midland

(Continued from page 1)

As the fire moved east, it burned onto the Midland International Airport property and neared the Midland WFO. As the fire moved farther east and neared Grande Communications Stadium, the winds helped the fire cross Loop 250. Meanwhile, the weather conditions worsened between 400 and 600 PM CDT. The temperature rose to 95°, the RH fell to 3 percent, wind gusts increased to 47 mph, and the 10-hour fuel stick moisture fell to 3 percent.

One way to measure the intensity of fires is through flame length. Knowing flame length is critical, because the length determines the tactics used by fire fighters. The Fireline Handbook states that

flame lengths of 4-8 ft. are “too intense for direct attack on the head by use of handtools and handline cannot be relied on to hold fire”. Furthermore, “major runs” are common with flame lengths of more than 11 ft. and “control efforts at the head of the fire are in-effective”. The CEED Fire flame lengths were estimated to be 25 ft., and its flame heights were at least 20 ft. By these reference points, the fire was clearly out of control.

After crossing Loop 250, the CEED Fire was within a half mile of homes, with a grass-loaded fuel bed between the homes. The fire, moving at 3.5 mph, would be able to cover a half of a mile in 15 minutes. Below is a summary of a MFD representative who was on scene providing structure pro-

tection for Midland homes in path of the fast moving and destructive fire.

“I did notice multiple spot fires occurring on the east side of the Loop during this time but visibility quickly dropped to feet in some cases. The spot fires that I did see quickly grew to large fires in a matter of seconds... Most of the fires burned up to the alleys and fence lines of the homes. Fire crews extinguished the fence fires before the fires progressed to the homes. Some of them, including myself, used garden hoses from the homes to help put out the fences and hot spots next to the homes.”

Firefighters gained control of the fire around 715 PM CDT, and city officials lifted evacuation orders and reopened closed roads.



Aerial photograph of the burn scar from the CEED Fire showing the fire burned onto the Midland International Airport. The black arrow shows the terminal location, the red arrow shows where the fire burned onto the runway, the blue arrow shows where WFO Midland is located. Photo is courtesy of the West Texas Regional Liaison Officer (RLO) in Midland.

CEED Fire Photos



The CEED Fire as viewed from WFO Midland at 349 PM CDT May 24, 2011. Photo is courtesy of WFO Midland.



Photo was taken from Leisure Dr. and Rocklyne Dr. looking west. This photo and the ones directly below are courtesy of MFD.



Aerial photograph of the burn scar from the CEED Fire showing the relation of the fire to the city of Midland.



The CEED Fire crossing Loop 250 south of Thomason Dr. This photo is looking south with the entrance ramp onto the loop 250 to the east.

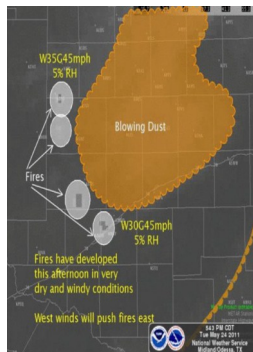


Aerial photo showing the burn scar outside a residential area of Midland.



Firefighters preparing to battle the flames from the CEED Fire

WFO Midland Providing Decision Support to Fire Services



An example of a web briefing showing satellite and the location, size, and movement of fires on May 24, 2011

We're on the Web!

www.weather.gov/midland

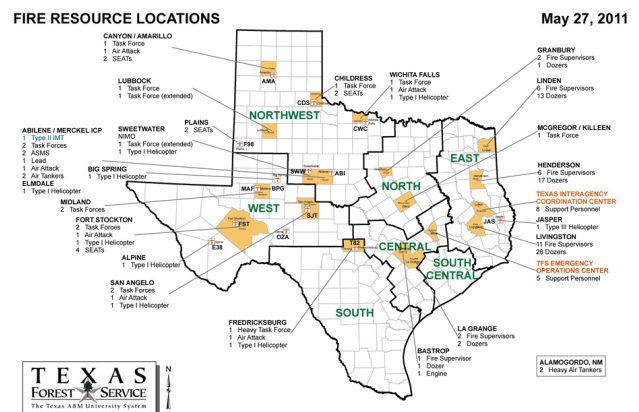


WFO Midland has been participating in daily fire planning teleconference calls hosted by the Texas Forest Service Assistant Regional Fire Coordinator in Midland. In these teleconferences, WFO Midland provides specific information for initial fire attack staging groups in Midland and other cities across west Texas. On the 830 AM CDT briefing the fire weather forecaster on duty May 24 briefed the staging group of the extremely critical fire weather conditions. Later that morning the Meteorologist-in-Charge of WFO Midland and the Incident Meteorologist met personally with the Regional Liaison Officer (RLO) and the Midland County Emergency Manager, briefing them of the

imminent extremely critical fire weather threat.

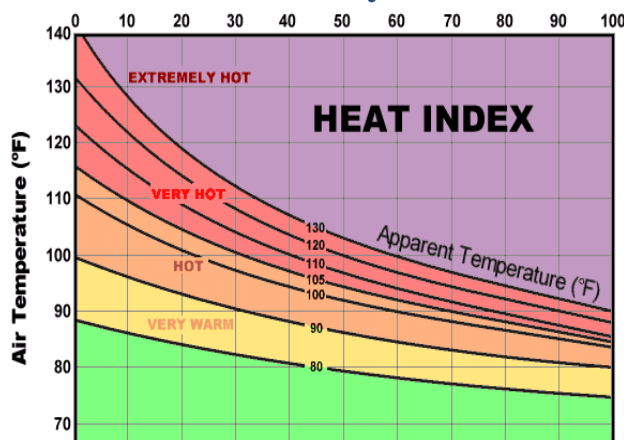
Once the fires developed across the Permian Basin, the staff at WFO Midland issued web based graphics using radar and satellite data to give the public overviews of the multiple large and dangerous fires. Between 300 and 700 PM CDT, WFO Midland briefed the MFD Battalion Chief on 3 differ-

ent occasions primarily concerning wind direction and speed. WFO Midland staff also coordinated with the Emergency Manager for Gaines County on the fire threatening the city of Seminole. Multiple phone briefings were also made with the RLO.



An example of a fire fighting resource map

Stay Informed: Heat Index Information



How to read the chart:

Follow the air temperature line for your forecast temperature until it intersects the forecast relative humidity line. Then read the Heat Index on the curved line. For example, for an air temperature of 100°F and Relative Humidity of 40%, follow the 100°F temperature line until it

intersects the 40% relative humidity line. The curved line that also intersects is the Heat Index, which for this example is 110°F, or 'VERY HOT'

The Heat Index is the temperature the body thinks it is and attempts to compensate for that level of

(Continued on page 7)

National Weather Service in Midland is on Facebook!

With an expanding population and advancements in technology, the need and capabilities to send and receive information in efficient, diverse ways to the public has grown. Facebook has 150 million users in the U.S. and presents the National Weather Service with another way to reach out and interact with the public. All NWS offices across the U.S. are going to be joining Facebook in the near

future, if they haven't already. The National Weather Service in Midland, TX debuted its Facebook page on Monday, May 9. Our Facebook page allows us to share and communicate with the public information about outreach events, weather headlines, preparedness information, graphical forecasts, and much, much more. "Fans" will also have the capability to post comments (keep it

clean, please!) and submit storm reports. It should be mentioned that posts and response to posts are made on a time-available basis and may be limited, especially during severe weather events, but we will try to monitor the page as much as possible. We here at the Midland NWS view this as an exciting opportunity and look forward to interacting with all of our "fans" on Facebook!



Stay Informed: Heat Index Information

(Continued from page 6)

heat. A very important note, is that these values

are in the SHADE. You can add up to 15°F (8°C) to these values if you are in direct sunlight!

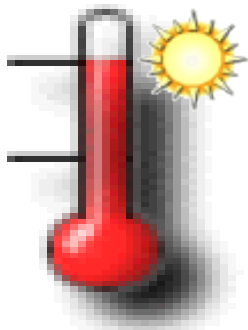
The chart below tells you the risk to the body from continued exposure to the excessive heat.

Information taken from: [NWS JetStream](http://www.srh.noaa.gov/srh/jetstream/global/hi.htm)

<http://www.srh.noaa.gov/srh/jetstream/global/hi.htm>

Category	Classification	Heat Index/Apparent Temperature	General Affect on People in High Risk Groups
I	Extremely Hot	130°F or Higher (54°C or Higher)	Heat/Sunstroke HIGHLY LIKELY with continued exposure
II	Very Hot	105°F - 130°F (41°C - 54°C)	Sunstroke, heat cramps, or heat exhaustion LIKELY , and heat stroke POSSIBLE with prolonged exposure and/or physical activity
III	Hot	90°F - 105°F (32°C - 41°C)	Sunstroke, heat cramps, or heat exhaustion POSSIBLE with prolonged exposure and/or physical activity
IV	Very Warm	80°F - 90°F (27°C - 32°C)	Fatigue POSSIBLE with prolonged exposure and/or physical activity

“...we will likely experience at or above normal temperatures across west Texas.”



A Hot Summer Coming For West Texas/Southeast New Mexico

The latest summer outlook from the Climate Prediction Center indicate that we will likely experience at or above normal temperatures across west Texas. More specifically, there is roughly a 40% chance temperatures will be above normal, roughly a 35% chance they will be near normal (~82°F), and roughly a 25% chance temperature will be below

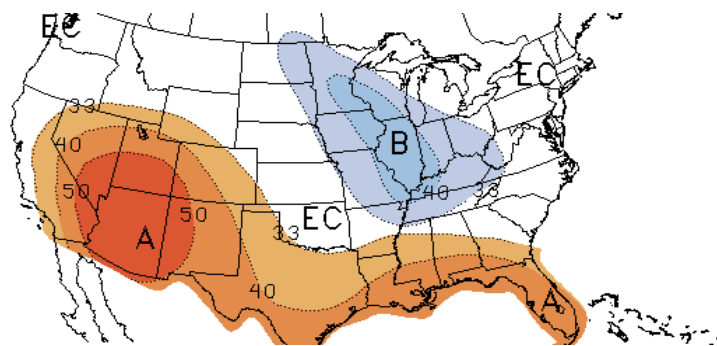
normal this summer.

Much of the southwestern U.S. has and even greater of experiencing above normal temperatures than west Texas does.

The precipitation trend is not clear across most of the country, including west Texas, which may potentially be a good sign for those looking for some rainfall. There is essen-

tially a 33.3% chance for the area to receive above, normal, or below normal amounts of rainfall. For the rest of the country, the northwestern U.S. has a higher than normal chance of seeing less than normal amounts of precipitation, while the rest of the country essentially has equal chances of above, normal, or below normal amounts of precipitation.

Three-Month Outlook: Temperature Probability

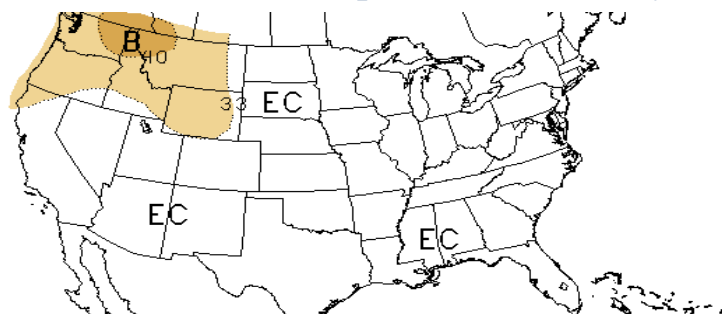


Valid June, July, August 2011

A Means Above Normal, N Means Normal, B Means Below Normal

EC Means Equal Chances for A, N, or B

Three-Month Outlook: Precipitation Probability



Valid June, July, August 2011

A Means Above Normal, N Means Normal, B Means Below Normal

EC Means Equal Chances for A, N, or B



Historical Drought Continues to Impact West Texas/SE New Mexico

We hate to bring up the drought word again, but due to the lack of rainfall in west Texas over the past few months; we have now reached and far surpassed the previous driest 6-month period in recorded Midland weather history. Since October 1, 2010 (237 days ago as of 5/25/11), the Midland International Airport has measured only 0.16" inches of precipitation! Before this year, the least amount of precipitation received in Midland during this time span was in the year 2000, when we received 1.84" of precipitation. If Midland were to receive our "normal" precipitation this summer of 5.30", October 2010 through August 2011 would still be the driest 11-month period at Midland since 1953.

Looking at the Rainfall chart, we can see that the drought certainly extends into New Mexico, and a good majority of the rest of Texas is well below normal in terms of precipitation received for 2011. Carlsbad, NM has only received 0.3% of the precipitation they normally get by this time of year, and Midland is barely doing

better, having received 4.4% of our normal precipitation. San Angelo and Snyder are doing the "best" in terms of precipitation, receiving a little over 25% of what they normally do by this time of year, but even that number is, well below average, as they are around 6.5" of precipitation below normal.



Dry grass outside the Midland, TX Weather Forecast Office

City	Jan. 1-June 15, 2011 Precipitation	Normal Precipitation	Departure From Normal	Percent of Normal
Alpine	0.18"	4.08"	-3.90"	4.4%
Bakersfield	0.54"	5.16"	-4.62"	10.5%
Big Lake	0.74"	7.29"	-6.55"	10.2%
Big Spring	1.46"	8.07"	-6.61"	18.1%
Carlsbad, NM	0.01"	3.8"	-3.79"	0.3%
Castolon	0.01"	1.89"	-1.88"	0.5%
Lamesa	0.53"	6.75"	-6.22"	7.9%
Lubbock	1.10"	7.09"	-5.99"	15.5%
Midland	0.16"	3.63"	-3.47"	4.4%
Roswell, NM	0.10"	3.78"	-3.68"	2.6%
San Angelo	2.48"	9.12"	-6.64"	27.2%
Snyder	2.71"	9.15"	-6.44"	29.6%
Van Horn	0.19"	2.36"	-2.17"	8.1%

In Midland Weather History...

June 27, 1994: The Midland International Airport recorded it's highest temperature ever (dating back to 1931) at 116 degrees!

On the very next day, lightning from high-based thunderstorms started several grass fires just north of Highway 191, causing officials to close

highways in the area. The flames were then blown northwest parallel and to the left of Highway 158 until firefighters were able to control the blaze. Over 2,000 acres of land were consumed by the fire.

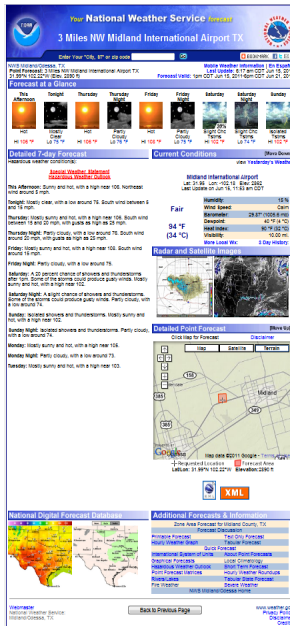


If you've ever searched for or would like to know how to locate a specific item of weather information, then this section of our newsletter is for you. **Find It on Our Website!** is a section that'll be in each publication of the *Dust Devil Digest* and is intended to help you become more aware of services and products we provide via the internet. This edition focuses on our tabular data page. Our tabular data page is an interactive page that has an hour-by-hour weather forecast of temperature, relative humidity, winds, chance of precipitation, etc. To navigate to this information, type the link to our homepage in your browser: www.weather.gov/midland. From here, enter the 'city, state' or 'zip code' you would like to view weather information

for and click 'go'. A 7-Day forecast for the location you selected should appear. Next, scroll down towards the bottom of the screen (see image on bottom left) and click on the link named 'Tabular Forecast' under the section titled 'Additional Forecasts and Information.' Simply click on the link and the tabular data for your selected location is displayed.

To select the specific weather information you would like to view, click on the box next to the specific weather item and make a checkmark in it. You can have as many weather items checked as you'd like. If you would like to view the weather item(s) in a timeframe other than the next 48 hours, click on the scroll box located after

'48-Hour Period Starting:' and choose the 48-hour time period you would like to view your specific weather item(s) for. Once you've customized the weather information and time period you would like to know our forecast for, click submit, and your weather information will be displayed below the grey box (see bottom right image)!



Additional Forecasts & Information	
Zone Area Forecast for Midland County, TX	
Forecast Discussion	
Printable Forecast	Text Only Forecast
Hourly Weather Graph	Tabular Forecast
International System of Units	About Point Forecasts
Interactive Forecast Map	Graphical Forecasts
Local Climatology	Hazardous Weather Outlook
Short Term Forecast	Point Forecast Matrices
Hourly Weather Roundups	Hydrology - Rivers/Lakes
Tabular State Forecast	Fire Weather
Severe Weather	Ahora en Español
NWS Midland/Odessa Home	



What Does it Mean? Summer Warning/Watch Products

With 2011 being the most active fire weather season to date and summer looming, the National Weather Service in Midland will likely be issuing many more fire weather related products. These products provide our users and partners advance notice of hazardous non-precipitation weather events that threaten life or property. Here is a quick rundown of what each product means when it is issued:

Red Flag Warning:

A Red Flag warning is issued when all of the following conditions occur simultaneously for 3 or more hours:

- Sustained winds of 20 mph or greater OR wind gusts of 35 mph or greater
- Relative humidity of

15% or lower
Fire danger rating of "high" to "extreme"

Fire Weather Watch:

A Fire Weather Watch has the same criteria as Red Flag Warning except issued 12 to 48 hours ahead of time (up to 72 hours if high confidence of dangerous fire weather conditions).

High Wind Warning:

A high wind warning is issued when there is an 80% or greater chance of:

- Sustained winds of 40 mph or greater lasting for 1 hour.

And/or

- Winds, not associated with severe storms, of 58 mph or greater for any duration.

High Wind Watch:

A High Wind Watch is issued when conditions are expected to reach High Wind Warning criteria within 12 to 48 hours.

Excessive Heat Warning:

Issued when both of the following conditions last for 48 hours or more:

- Daytime heat index values are expected to be 110°F or greater.
- Minimum overnight temperatures expected to be 75°F or greater.

Dust Storm Warning:

When a dust storm warning is issued, a concentration is expected to reduce visibilities to $\frac{1}{4}$ of a mile or less.



Weather Mad Lib

Fill in the blanks with the appropriate part of speech:

Your name: _____

Person: _____

Place: _____

Noun: _____

Number: _____

Noun (plural): _____

Noun (plural): _____

Name: _____

Noun: _____

Emotion ending in "ly": _____

Animal: _____

Verb ending in "ing": _____

Food: _____

Music artist/group: _____

Number: _____

Adjective: _____

Color: _____

Copy the word you wrote in each blank with the corresponding blank for each word on **page 13** and enjoy!

Weather Trivia

This edition's weather topic: **Clouds**

Easy

1. A rotating column of air that descends from the base of a thunderstorm and touches the ground is referred to as what?
2. Conventionally, clouds are vertically divided into three categories. Two of them are 'low clouds' and 'high clouds'. What is the third?
3. True or False: A cloud does not need wind to move across the sky?

Medium

1. "Nimbo" comes from the Latin word meaning what?
2. What is the name for the scientific process that results in cloud formation?

3. "Stratus" comes from the Latin word meaning what?
4. What is the name of the cloud that is typically associated with thunderstorms?
5. In reference to clouds, what does the prefix "alto" mean?

Hard

1. True or false: Cloud droplets can remain liquid even when they have a temperature below freezing?
2. Fog formed by the cooling of earth's surface at night is referred to as what type of fog?
3. Precipitation that vaporizes before it reaches the earth's surface is called what?

Answers on Page 13



Lenticular clouds taken outside the Midland WFO on May 24, 2004

Weather Terms

The three weather terms for this edition of the *Dust Devil Digest* are:

Nocturnal

- Related to nighttime; occurring at night.

Scud Clouds

- Small, ragged, low cloud fragments that

are unattached to a larger cloud base and often seen with and behind cold fronts and thunderstorm gust fronts. Such clouds generally are associated with cool moist air, such as thunderstorm outflow.

Acre-foot

- The amount of

water required to cover one acre to a depth of one foot. An acre-foot equals 326,851 gallons, or 43,560 cubic feet.

These terms and more than 2,000 others can be found on the [National Weather Service Glossary Page!](#)



Cumulonimbus with scud clouds from May 14, 2003

Weather Mad Lib

It was a clear and starry night, with a full moon shining brightly across the sky.

_____, a budding meteorologist, was peacefully drifting off to sleep...

Your Name

All of the sudden, there was a bright white flash outside followed a loud boom of thunder. The next thing you know, _____'s voice was talking

Person

on your weather radio: "Greetings from _____," the voice said. "A

Place

severe _____ warning is in effect for the next _____ hours.

Noun

Number

Local storm spotters have reported that it's raining _____ and

Noun (Plural)

_____..." You instantly ran to your window and looked outside.

Noun (Plural)

"Look _____, there's two inches of _____ on the

Name

Noun

ground," you _____ exclaimed to your pet _____.

Emotion Ending in "ly"

Animal

The voice on the weather radio continued: "... in addition, avoid _____

Verb Ending in "ing"

outdoors." At this point your pet was chewing on your alarm clock like it was

_____. There were still bright flashes of lightning going on almost constantly.

Food

Suddenly, _____ started singing on the weather radio: "The

Music Artist/Group

current temperature is _____ degrees, skies are _____ and

Number

Adjective

_____. Just as you thought things were starting to get weird, you turned

Color

and saw your pet bite into your alarm clock... and it went off... *****BIIIIIIING***** You quickly sit up in your bed, look around, and realize it was all a strange dream!



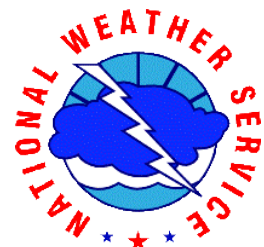
Trivia Answers:

Easy: 1. A tornado; 2. 'Mid-level' clouds; 3. False

Medium: 1. Rain; 2. Condensation

3. Layer; 4. Cumulonimbus; 5. Middle

Hard: 1. True; 2. Radiation fog; 3. Virga



National Weather Service
Midland/Odessa Weather
Forecast Office

2500 Challenger Drive
Midland, Texas 79706

Phone: 432-563-5006

Fax: 432-563-8117

We're on the Web!

www.weather.gov/midland

The *Dust Devil Digest*

Editor: Kurt Kotenberg
Kurt.Kotenberg@noaa.gov

Webmaster: Eric Platt
sr-maf.webmaster@noaa.gov

Warning Coordination

Meteorologist: Pat Vesper
Pat.Vesper@noaa.gov

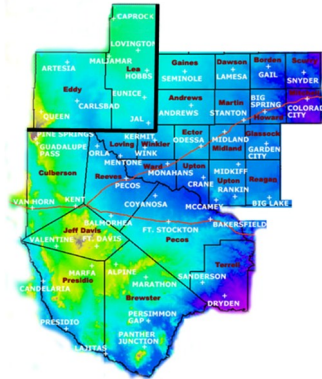
Contributions from:
Greg Murdoch
Pat Vesper
Kat Hawley



"Working together to save lives!"

"The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community"

Midland/Odessa, TX County Warning Area



The Midland forecast area is composed of 26 counties, 2 in New Mexico and 24 in Texas.

Ask A Meteorologist

Have a weather question you'd like answered? Would you like to know how something works in the National Weather Service, or the meaning of a certain product we issue? Anything else weather-related you'd like to know about? This is a section we're hoping to feature in each edition of the *Dust Devil Digest*. Simply e-mail your weather question to the editor or sr-maf.webmaster@noaa.gov and we will try to feature it in one of our future publications!



**Questions? Comments? Feedback? We would love to hear from you!
Or if you have an idea you would like to see in a future newsletter,
contact us!**

sr-maf.webmaster@noaa.gov